

World No Tobacco Day — May 31, 2010

Tobacco use is the leading cause of preventable death worldwide and is estimated to kill 5 million persons each year. According to the World Health Organization (WHO), if current trends continue, by 2030 tobacco use could cause 8 million deaths annually (1).

WHO created World No Tobacco Day in 1987 to draw global attention to tobacco use and the preventable death and disease it causes. The theme for this year's World No Tobacco Day, which will be held on May 31, is "gender and tobacco, with an emphasis on marketing to women."

Although women account for only about 20% of the world's 1 billion smokers, female smoking rates are on the rise (2), and tobacco advertising increasingly targets girls and women (3). World No Tobacco Day this year emphasizes the importance of controlling tobacco use among women and understanding the differences between males and females in tobacco use, awareness of tobacco advertising and marketing, and the health effects of tobacco use. Additional information regarding World No Tobacco Day is available on the Internet (2).

References

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Differences by Sex in Tobacco Use and Awareness of Tobacco Marketing — Bangladesh, Thailand, and Uruguay, 2009

The majority of the world's 1.3 billion tobacco users are men, but female use is increasing (1,2). To examine differences in tobacco use and awareness of tobacco marketing by sex, CDC and health officials in Bangladesh, Thailand, and Uruguay (among the first countries to report results) analyzed 2009 data from a newly instituted survey, the Global Adult Tobacco Survey (GATS). This report summarizes the results of that analysis, which indicated wide variation among the three countries in tobacco use, product types used, and marketing awareness among males and females. In Bangladesh and Thailand, use of smoked tobacco products was far greater among males (44.7% and 45.6%, respectively) than females (1.5% and 3.1%, respectively). In Uruguay, the difference was smaller (30.7% versus 19.8%). Use of smokeless tobacco products in Bangladesh was approximately the same among males (26.4%) and females (27.9%), but females were significantly more likely to use smokeless tobacco in Thailand (6.3% versus 1.3%), and use in

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Uruguay by either sex was nearly nonexistent. Males in Bangladesh were twice as likely as females to notice cigarette advertising (68.0% versus 29.3%), but the difference between males and females was smaller in Thailand (17.4% versus 14.5%) and Uruguay (49.0% versus 40.0%). In all three countries, awareness of tobacco marketing was more prevalent among females aged 15–24 years than older women. Comprehensive bans on advertising, sponsorship, and promotion of tobacco products, recommended by the World Health Organization (WHO) (1), can reduce per capita cigarette consumption if enforced (3).

GATS* is a new nationally representative household survey of persons aged ≥15 years, initially conducted during 2008–2009 in 14 countries: Bangladesh, Brazil, China, Egypt, India, Mexico, Philippines, Poland, Russian Federation, Thailand, Turkey, Ukraine, Uruguay and Vietnam. Bangladesh, Thailand, and Uruguay were among the first countries to report results. The GATS core questionnaire includes detailed questions regarding the demographic characteristics of respondents, their tobacco use, and

a wide range of tobacco-related topics (e.g., cessation, secondhand smoke, economics, media, and knowledge, attitudes, and perceptions). In each country, a multistage cluster sample design is used, with the number of households selected proportionate to population size. Households are chosen randomly within a primary sampling unit or secondary sampling unit, and one respondent is selected at random from each selected household to participate in the survey. Interviewers administer the survey in the country's local language, using handheld electronic data collection devices. Interviews are conducted privately and same-sex interviewers are used in countries where culturally appropriate (e.g., Bangladesh). Response rates and number of participants for the three countries in 2009 were as follows: Bangladesh, 93.6% and 9,629; Thailand, 94.2% and 20,566; and Uruguay, 95.6% and 5,581.

To examine differences in tobacco use by sex, estimates of current tobacco use[†] in the three countries were analyzed for both smoked tobacco products[§] and

* Additional information available at <http://www.cdc.gov/tobacco/global/gats>.

[†] Percentage of respondents who reported currently smoking tobacco or using smokeless tobacco on a "daily" or "less than daily" basis.

[§] In Bangladesh, these included manufactured cigarettes, bidis, and other smoked products such as cigars, pipes, and water pipes. In Thailand and Uruguay, they included manufactured and hand-rolled cigarettes.

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smokeless tobacco products.[‡] To examine differences in tobacco marketing awareness by sex, “yes” responses were analyzed to questions regarding whether participants had noticed advertising, promotion, or sponsorship of cigarettes in the preceding 30 days. Estimates were reported for noticing any cigarette marketing, noticing marketing in stores where cigarettes are sold, and noticing marketing other than in stores where cigarettes are sold.^{**} In Bangladesh, similar questions regarding bidi^{††} and smokeless tobacco

marketing were included in the survey. All estimates were weighted to reflect the noninstitutionalized population aged ≥15 years in each country, accounting for clustered sampling in the variance estimation. Statistical significance of differences in values was determined using a chi-square test, with significance determined at $p < 0.05$.

In all three countries, current tobacco use was higher among males than females, but use of tobacco varied substantially by sex. In Bangladesh, overall smoking prevalence among females (1.5%) was far lower than males (44.7%) (Table 1). However, the prevalence of smokeless tobacco use among females (27.9%) and males (26.4%) was approximately the same. In Thailand, smoking prevalence was much lower among females, compared with males (3.1% versus 45.6%), but smokeless tobacco use was higher among females than males (6.3% versus 1.3%, respectively). In Uruguay, 19.8% of females were current smokers, compared with 30.7% of males, but only one of the 5,581 participants reported using smokeless tobacco.

Regardless of age group or region type (urban or rural), males were more likely to smoke than females in all three countries. Among both males and females,

[‡] In Bangladesh, these included betel quid with tobacco, sada pata, gul, khoinee zarda, and pan masala. In Thailand, they include betel quid with tobacco. In Uruguay, they included any smokeless or chew tobacco product; however, only one respondent in Uruguay indicated smokeless tobacco use.

^{**} Noticing any cigarette marketing included noticing advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions in the preceding 30 days. Noticing cigarette marketing in stores where cigarettes are sold included noticing cigarettes at sale prices, free gifts, or discount offers on other products while buying cigarettes, or any advertisements or signs promoting cigarettes in stores where cigarettes are sold in the preceding 30 days. Noticing cigarette marketing in places other than in stores where cigarettes are sold included noticing any advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions in the preceding 30 days other than in stores where cigarettes are sold.

^{††} Hand-rolled cigarettes made of tobacco flakes wrapped in a temburini or tendu leaf and tied with a string.

TABLE 1. Current tobacco use among persons aged ≥15 years, by sex and selected characteristics — Global Adult Tobacco Survey, Bangladesh, Thailand, and Uruguay, 2009

Characteristic	Bangladesh (N = 9,629)				Thailand (N = 20,566)				Uruguay (N = 5,581)			
	Males (n = 4,468)		Females (n = 5,161)		Males (n = 10,052)		Females (n = 10,514)		Males (n = 2,634)		Females (n = 2,947)	
	%	(95% CI) [*]	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Overall	58.0	(55.9–60.1)	28.7	(26.7–30.8)[†]	46.4	(44.6–48.2)	9.1	(8.2–10.2)[†]	30.7	(28.2–33.4)	19.8	(18.1–21.6)[†]
Smoked tobacco products[‡]	44.7	(42.5–47.0)	1.5	(1.1–2.1)[†]	45.6	(43.8–47.4)	3.1	(2.7–3.6)[†]	30.7	(28.2–33.4)	19.8	(18.1–21.6)[†]
Age group (yrs)												
15–24	24.0	(20.4–28.0)	0.4	(0.1–1.0) [†]	37.4	(32.5–42.6)	1.4	(0.9–2.3) [†]	28.9	(23.4–35.0)	20.2	(15.6–25.8) [†]
25–44	53.1	(50.1–56.1)	1.1	(0.6–2.0) [†]	51.4	(49.1–53.7)	2.3	(1.8–3.0) [†]	35.0	(30.7–39.5)	26.0	(22.7–29.5) [†]
45–64	57.9	(53.6–62.2)	2.6	(1.7–4.0) [†]	45.2	(42.9–47.6)	4.4	(3.5–5.5) [†]	34.9	(30.4–39.7)	22.8	(19.1–27.1) [†]
≥65	39.1	(32.7–45.9)	6.6	(3.5–12.2) [†]	37.7	(34.2–41.4)	5.6	(4.2–7.4) [†]	13.2	(9.8–17.5)	5.2	(3.8–7.1) [†]
Region type												
Urban	42.1	(39.5–44.7)	0.8	(0.5–1.2) [†]	41.9	(40.1–43.7)	3.3	(2.8–3.8) [†]	30.9	(28.1–33.8)	20.0	(18.2–21.9) [†]
Rural	45.6	(42.8–48.5)	1.8	(1.2–2.6) [†]	47.1	(44.7–49.6)	3.0	(2.4–3.8) [†]	28.9	(25.0–33.1)	16.7	(12.7–21.7) [†]
Smokeless tobacco products[‡]	26.4	(24.2–28.6)	27.9	(25.9–30.0)	1.3	(1.1–1.7)	6.3	(5.5–7.2)[†]	0.0	(0.0–0.1)	—^{**}	—
Age group (yrs)												
15–24	9.3	(6.6–12.9)	4.0	(2.9–5.6) [†]	0.1	(0.0–0.5)	—	—	—	—	—	—
25–44	27.0	(24.3–29.9)	26.6	(23.9–29.5)	0.5	(0.3–1.0)	0.7	(0.4–1.1)	—	—	—	—
45–64	40.4	(36.0–44.9)	56.2	(52.1–60.3) [†]	1.6	(1.1–2.2)	8.5	(7.0–10.3) [†]	0.0	(0.0–0.3)	—	—
≥65	49.3	(42.8–55.8)	64.1	(56.3–71.2) [†]	7.5	(5.6–9.9)	32.9	(28.9–37.1) [†]	—	—	—	—
Region type												
Urban	21.6	(19.0–24.4)	23.4	(20.6–26.4)	0.8	(0.6–1.1)	2.2	(1.7–2.8) [†]	—	—	—	—
Rural	28.1	(25.3–31.0)	29.6	(27.1–32.1)	1.5	(1.2–2.0)	8.3	(7.1–9.6) [†]	0.1	(0.0–0.9)	—	—

^{*} Confidence interval.

[†] Significant difference between females and males ($p < 0.05$, chi-square test).

[‡] In Bangladesh, these include manufactured cigarettes, bidis, and other smoked products such as cigars, pipes, and water pipes. In Thailand and Uruguay, they include manufactured and hand-rolled cigarettes.

[‡] In Bangladesh, these include betel quid with tobacco, sada pata, gul, khoinee zarda, and pan masala. In Thailand, they include betel quid with tobacco. In Uruguay, they include any smokeless or chew tobacco product; however, only one respondent in Uruguay indicated smokeless tobacco use.

^{**} No respondent in category reported use.

What is already known on this topic?

Before the advent of the Global Adult Tobacco Survey (GATS), comparative data on tobacco prevalence and awareness of tobacco marketing among countries were not available.

What is added by this report?

GATS results for three of the first countries to have data available, Bangladesh, Thailand, and Uruguay, indicate wide variation in tobacco use, products used, and awareness of tobacco product marketing among males and females.

What are the implications for public health practice?

Implementation of the World Health Organization's MPOWER strategy can effectively reduce tobacco use and its associated illness and deaths.

smoking prevalence varied by age group but did not vary greatly by region type. In Bangladesh and Thailand, smokeless tobacco use among both males and females increased with age group, and smokeless tobacco use was higher in rural than urban areas. In each of these countries, the greatest prevalence of smokeless tobacco use was among women aged ≥ 65 years: 64.1% in Bangladesh and 32.9% in Thailand.

The percentage of females who noticed any cigarette advertising, sponsorship, or promotion in the preceding 30 days was 29.3% in Bangladesh, 14.5% in Thailand, and 40.0% in Uruguay (Table 2). Among males, the prevalence was 68.0% in Bangladesh, 17.4% in Thailand, and 49.0% in Uruguay. Among females, awareness of cigarette marketing in stores where cigarettes are sold was 22.0% in Bangladesh, 7.6% in Thailand, and 24.0% in Uruguay. In Thailand and Uruguay, little or no difference in awareness of in-store cigarette marketing was observed between males and females; however, in Bangladesh, the prevalence among males (54.8%) was more than double the prevalence among females. Similar patterns by sex were observed for awareness of cigarette marketing other than in stores where cigarettes are sold. The percentage of females who noticed tobacco advertising, sponsorship, or promotion other than in stores where cigarettes are sold was 16.5% in Bangladesh, 8.3% in Thailand, and 31.6% in Uruguay.

In all three countries, awareness of cigarette advertising was greater among females aged 15–24 years than women aged ≥ 25 years. Similar age differences were observed among males in all three countries. In

Bangladesh, awareness of bidi (80.1%) and smokeless tobacco (69.9%) marketing was widespread among females and did not vary by age. In Thailand, for both males and females, those who lived in urban areas were more likely to report exposure to cigarette marketing than those in rural areas. This relationship also was observed among males in Uruguay. In contrast, awareness of both bidi and smokeless tobacco marketing in Bangladesh was more common among males in rural areas than in urban areas (Table 2).

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Editorial Note

This report is the first to compare results among countries that participated in GATS. The findings demonstrate the wide variation in prevalence of tobacco use and types of tobacco used by males and females in Bangladesh, Thailand, and Uruguay and also the widespread exposure to tobacco marketing in these three countries, particularly among persons aged 15–24 years. Although tobacco use surveys have been conducted previously in all three countries, the results from GATS are the first that allow comparison among countries using the same core questionnaire and survey method.

One finding from these surveys is the lower prevalence of current smoking among females in Bangladesh and Thailand compared with males, but the higher prevalence of smokeless tobacco use among females. This reflects the traditional social acceptance of smokeless tobacco use among females in Southeast Asian countries (4), where older women are more likely to be users. In contrast, in Uruguay, smokeless tobacco use by either sex is virtually nonexistent. Tobacco use in individual countries reflects a complex interaction of personal, familial, cultural, and social factors, including exposure to tobacco industry marketing (5). For example, in the United States, girls and young women have been shown to be particularly susceptible to beliefs about self-image

TABLE 2. Awareness of tobacco marketing in the past 30 days among persons aged ≥15 years, by sex, marketing type, and selected characteristics — Global Adult Tobacco Survey, Bangladesh, Thailand, and Uruguay, 2009

Marketing type/Characteristic	Bangladesh (N = 9,629)				Thailand (N = 20,566)				Uruguay (N = 5,581)			
	Males (n = 4,468)		Females (n = 5,161)		Males (n = 10,052)		Females (n = 10,514)		Males (n = 2,634)		Females (n = 2,947)	
	%	(95% CI*)	%	(95% CI)	%	(95% CI*)	%	(95% CI*)	%	(95% CI*)	%	(95% CI*)
Noticed any cigarette advertising, sponsorship, or promotion [†]	68.0	(64.9–71.0)	29.3	(26.1–32.6) [§]	17.4	(15.8–19.0)	14.5	(13.0–16.0) [§]	49.0	(46.0–52.0)	40.0	(37.2–42.8) [§]
Age group (yrs)												
15–24	73.1	(68.0–77.7) [¶]	37.9	(33.5–42.5) [¶]	25.1	(21.1–29.6) [¶]	28.1	(23.7–32.8) [¶]	60.1	(53.4–66.5) [¶]	62.5	(55.4–69.0) [¶]
≥25	65.9	(62.6–69.0)	25.6	(22.4–29.1)	15.3	(13.9–16.8)	11.2	(10.1–12.5)	45.8	(42.9–48.9)	34.9	(32.2–37.7)
Region type												
Urban	67.6	(63.3–71.7)	28.6	(23.3–34.6)	22.0	(20.3–23.8)**	17.4	(15.9–19.1)**	49.8	(46.6–53.0)**	40.2	(37.3–43.3)
Rural	68.1	(64.1–71.8)	29.5	(25.7–33.6)	15.3	(13.3–17.6)	13.1	(11.1–15.3)	40.7	(35.9–45.6)	35.6	(31.2–40.4)
In stores where cigarettes are sold ^{††}	54.8	(51.7–57.9)	22.0	(19.1–25.3) [§]	8.3	(7.1–9.6)	7.6	(6.5–8.9)	29.9	(27.1–32.8)	24.0	(21.6–26.5) [§]
Age group (yrs)												
15–24	58.9	(53.7–64.0) [¶]	28.2	(24.2–34.5) [¶]	12.1	(9.3–15.7) [¶]	15.2	(11.7–19.6) [¶]	40.1	(34.5–45.9) [¶]	41.8	(35.2–48.6) [¶]
≥25	53.1	(49.8–56.3)	19.4	(16.4–22.8)	7.3	(6.2–8.4)	5.8	(4.9–6.8)	27.0	(24.0–30.1)	20.0	(17.8–22.4)
Region type												
Urban	52.5	(48.1–56.9)	19.5	(15.2–24.6)	10.1	(8.9–11.5)**	8.9	(7.6–10.3)	30.6	(27.6–33.7)**	24.5	(22.0–27.2)**
Rural	55.6	(51.7–59.5)	22.9	(19.3–27.0)	7.5	(6.0–9.3)	7.0	(5.6–8.8)	22.3	(18.8–26.3)	16.2	(12.7–20.4)
Other than in stores where cigarettes are sold ^{§§}	47.7	(44.4–51.0)	16.5	(14.2–19.1) [§]	11.1	(9.9–12.3)	8.3	(7.3–9.5) [§]	39.6	(36.6–42.6)	31.6	(29.0–34.4) [§]
Age group (yrs)												
15–24	53.9	(48.4–59.4) [¶]	22.2	(18.7–26.1) [¶]	16.6	(13.3–20.5) [¶]	16.5	(13.2–20.4) [¶]	47.1	(40.3–54.1) [¶]	50.3	(43.4–57.1) [¶]
≥25	45.1	(41.9–48.4)	14.1	(11.9–16.6)	9.6	(8.5–10.7)	6.4	(5.6–7.3)	37.4	(34.3–40.5)	27.5	(25.0–30.1)
Region type												
Urban	50.5	(46.6–54.4)	17.6	(13.6–22.5)	14.7	(13.3–16.1)**	10.5	(9.4–11.7)**	40.1	(36.8–43.4)**	31.8	(29.0–34.7)
Rural	46.7	(42.5–50.9)	16.1	(13.4–19.3)	9.5	(7.9–11.3)	7.3	(5.9–9.0)	34.2	(29.9–38.7)	29.7	(25.5–34.2)
Noticed any bidi advertising, sponsorship, or promotion	85.9	(81.8–89.2)	80.1	(73.7–85.4)	NA ^{¶¶}		NA		NA		NA	
Age group (yrs)												
15–24	88.5	(82.8–92.5)	83.0	(77.3–88.8)	NA		NA		NA		NA	
≥25	84.8	(80.4–88.3)	78.2	(70.4–84.3)	NA		NA		NA		NA	
Region type												
Urban	76.1	(69.9–81.3)**	74.2	(63.7–82.5)	NA		NA		NA		NA	
Rural	89.2	(83.8–92.9)	81.9	(73.7–88.0)	NA		NA		NA		NA	
Noticed any smokeless tobacco advertising, sponsorship, or promotion	70.8	(64.1–76.7)	69.9	(61.4–77.2)	NA		NA		NA		NA	
Age group (yrs)												
15–24	74.1	(64.1–82.0)	69.3	(60.3–77.0)	NA		NA		NA		NA	
≥25	69.4	(62.4–75.7)	70.2	(60.6–78.3)	NA		NA		NA		NA	
Region type												
Urban	57.6	(49.3–65.5)**	67.0	(54.5–77.5)	NA		NA		NA		NA	
Rural	76.0	(66.9–83.2)	71.0	(60.0–80.0)	NA		NA		NA		NA	

* Confidence interval.

[†] Includes any advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions.[§] Significant difference between females and males (p<0.05, chi-square test).[¶] Significant difference between younger and older age group (p<0.05, chi-square test).^{**} Significant difference between urban and rural region type (p<0.05, chi-square test).^{††} Includes cigarettes at sale prices, free gifts, or discount offers on other products while buying cigarettes, or any advertisements or signs promoting cigarettes in stores where cigarettes are sold.^{§§} Includes any advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions other than in stores where cigarettes are sold.^{¶¶} Data not available.

and weight control, and might be influenced more by female friends and role models who smoke or use tobacco (5).

GATS survey results like these can be used to better understand comparative patterns of tobacco use among countries, which, in turn, can be used to create more effective control programs and monitor the impact of these programs. GATS was created to enable systematic monitoring of tobacco use by persons aged ≥15 years and key tobacco-control indicators in low- and middle-income countries. Over time,

GATS will provide detailed information on a range of tobacco-control topics, including cessation, secondhand smoke, economics, media, and knowledge, attitudes, and perceptions.

The theme of WHO's World No Tobacco Day 2010 (May 31) is "gender and tobacco with an emphasis on marketing to women." Tobacco marketing is important to the initiation and maintenance of tobacco use (6). In all three countries in this report, greater awareness of cigarette marketing was found among females aged 15–24 years than older women,

suggesting that tobacco companies might be targeting this age group. Historically, the tobacco industry has taken advantage of increasingly liberalized social attitudes toward women and increased economic empowerment of women to aggressively market and sell its products (7). In the absence of effective tobacco control policies, this pattern might repeat itself in low- and middle-income countries, resulting in a rise in tobacco use and tobacco-related disease and death.

Globally, each year, the tobacco industry spends tens of billions of dollars on direct and indirect advertising of tobacco products (8). Comprehensive bans on tobacco advertising, sponsorship, and promotion have been shown to reduce per capita cigarette consumption (3) if adequately enforced. Enforcement of bans on tobacco advertising, sponsorship, and promotion, is a component of WHO's MPOWER strategy (1). According to WHO, only 26 countries have implemented comprehensive bans on direct and indirect tobacco advertising, and many do not have high levels of compliance (8). Bangladesh and Uruguay have a ban on all national television, radio, and print media, and on some, but not all, other forms of direct and/or indirect advertising of tobacco products. In these countries, enforcement is rated as high, but not complete (8). Thailand has a ban on all direct and indirect advertising, with the level of enforcement rated somewhat lower.^{§§} The results presented in this report indicate that the lowest prevalence of awareness of cigarette marketing, among both males and females, was found in Thailand, where prohibition of the display of cigarettes packets or logos of tobacco brands at the points of sale was enforced beginning in 2005.

The findings in this report are subject to at least two limitations. First, the prevalence results are based on self-reports. In certain settings, social norms (i.e., unacceptability of women smoking) might result in underreporting. However, this tendency might have been mitigated by using same-sex interviewers and conducting interviews in private settings. Second, regarding the findings on awareness of tobacco

marketing, slight variations in the number and type of specific response categories used in each country might limit comparability. For example, Thailand added a category of "pubs/bars" as a site for tobacco marketing to the core GATS questionnaire and removed "public walls." Uruguay added the category "e-mail" to promotions, and Thailand added a category for the "Internet." Aside from these differences, the response categories were similar among the three countries.

Continued monitoring will be needed to determine trends in tobacco use and awareness of tobacco marketing and the differences between males and females. Repeated GATS surveys in participating countries will allow the countries to compare results to other countries, track key tobacco control indicators, and monitor progress toward tobacco-control goals.

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^{§§} Enforcement ratings are measured on a 10-point scale and are based on an in-country qualitative assessment by national tobacco-control experts. Bangladesh received an enforcement rating of 9, Thailand 7, and Uruguay 9.